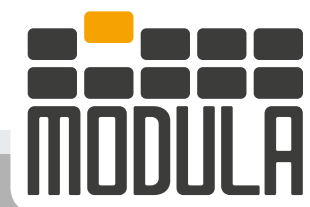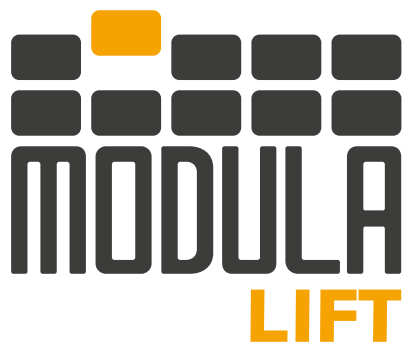# **Modula** World

Think Vertical, Think Modula

MODULA

## This is the automatic vertical warehouse which will improve your logistics processes

Our products are designed to save space and time and improve process efficiency.
You are sure to find the solution that best suits your storage needs amongst the many products we offer.
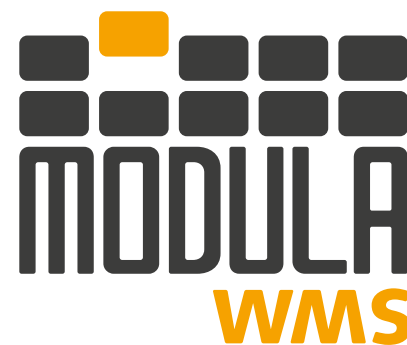
MODULA LIFT

The automatic vertical warehouse which resolves your space and security issues.

MODULA SINTES1

Ideal for storing small lightweight items.

MODULA CUBE
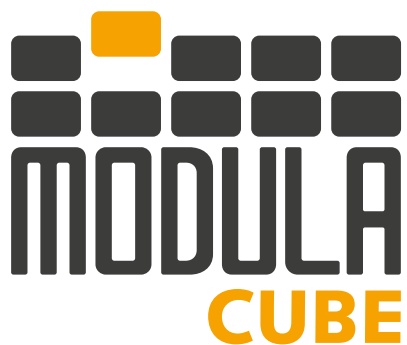
Modula automatic storage solution with a vertical construction.
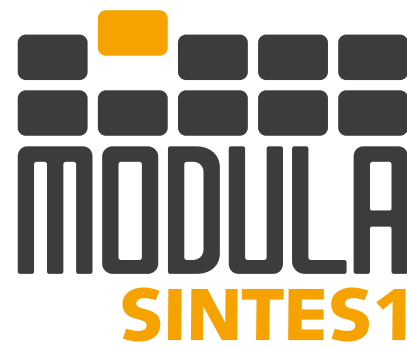
MODULA WMS

Warehouse management software.

INDEX

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MODULA

DESIGN

PRODUCTION

SUPPORT

SOLUTIONS DEDICATED TO YOUR SUCCESS

CONSULTANCY AND SALES

MAINTENANCE AND TRAINING

INSTALLATION
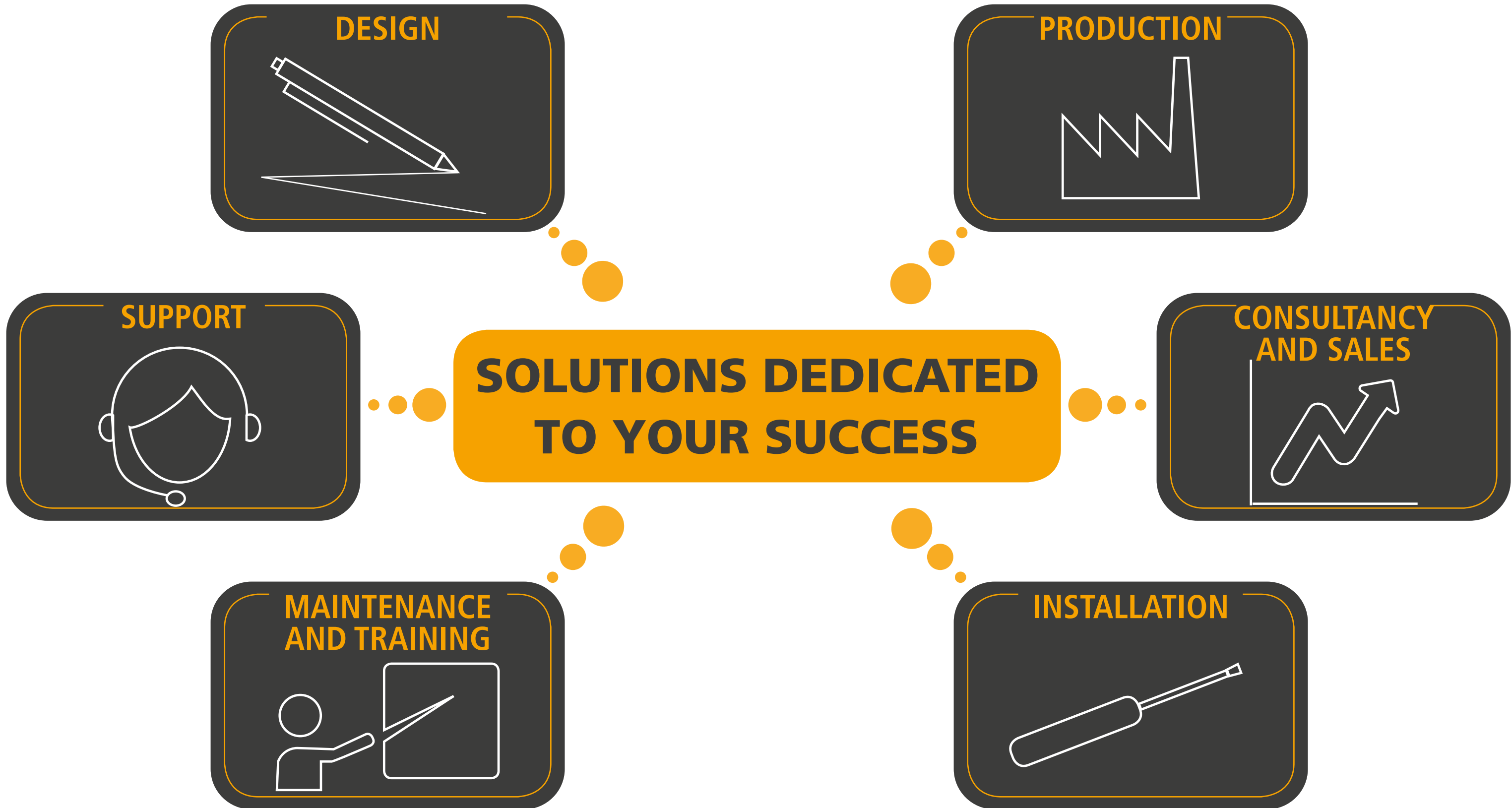
Salvaterra, Italy

Our Italian headquarters

Our Italian headquarters in Salvaterra (Reggio nell'Emilia)

Electrical Department

Our Italian production facility in Salvaterra (Reggio nell'Emilia)

Lewiston (ME), USA

Our US headquarters

Cutting, pressing and bending lines

Bending and pressing lines

Robotic units

Our production facility in Lewiston (ME), USA

Suzhou, China

Our Chinese headquarters

Punching and pannelling in operation at our Chinese facility
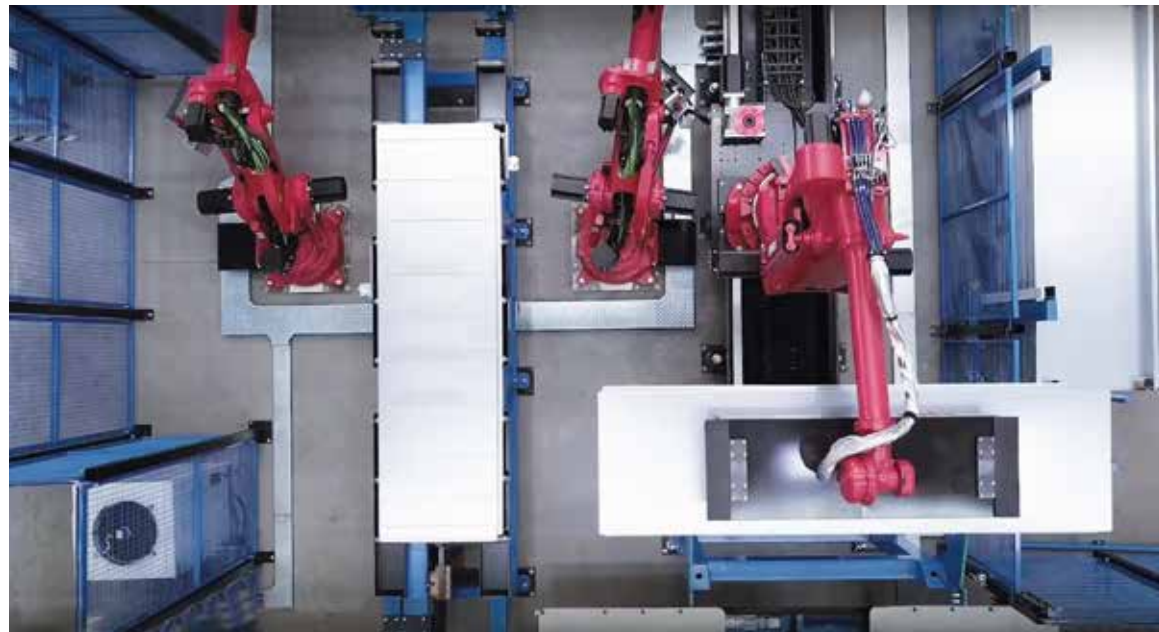
Anthropomorphous robots carrying out tray welding

Our facility in Suzhou

MODULA is part of the System group

A large international group with more than 40 years experience of various industrial sectors.

Research, development and technological innovation are the cornerstones of our company. Over the years we have obtained more than 200 patents and every year we invest 5% of turnover into Research and Development.

25
countries

37
companies

44
offices

2000+
employees

System Group (Fiorano Modenese), headquarters

Modula World: our presence around the world (branches and dealers)

SWEDEN

POLAND

CZECH REPUBLIC

GERMANY

BALTIC REPUBLICS

RUSSIA

BENELUX

IRELAND

BIELORUSSIA

UK

CANADA

FRANCE

SLOVAKIA

HUNGARY

USA

ITALY

ROMANIA

CHINA

SPAIN

TURKEY

SOUTH KOREA

PORTUGAL

IRAN

MEXICO

SERBIA
MONTENEGRO

SLOVENIA

SAUDI ARABIA

BANGLADESH

TAIWAN

CROATIA

UAE

VIETNAM

THAILAND

PHILIPPINES

COLOMBIA

EGYPT

INDIA

MALAYSIA

ECUADOR

ISRAEL

SINGAPORE

INDONESIA

BRAZIL

ARGENTINA

AUSTRALIA

URUGUAY

SOUTH AFRICA

CHILE

Modula Headquarters and production plants

Subsidiaries & Dealer
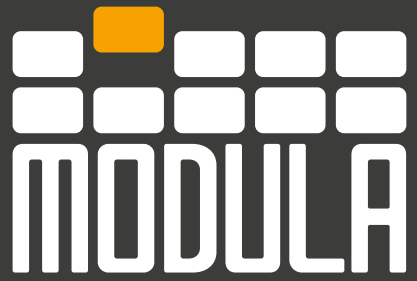
Do you need more space?

Want to improve the efficiency of your processes?

Want to keep inventory under control?

Choose a vertical solution

- Increases productivity

- Saves space

- Increases ergonomics

- Grow your business

LIFT TECHNOLOGIES

Conceived in order to utilise as much of a building's vertical space as possible and save floor space, vertical technologies are the ideal answer for a warehouse that is organised, clean, safe and fast.

- No more mess
- No more late orders
- No more mistakes
- No more risks
- No more wasted space
- No more out-of-control inventory

The ideal solution for your business.

Before Modula ➡ **After**

Floor space recovery ➡ **UP TO 90%**
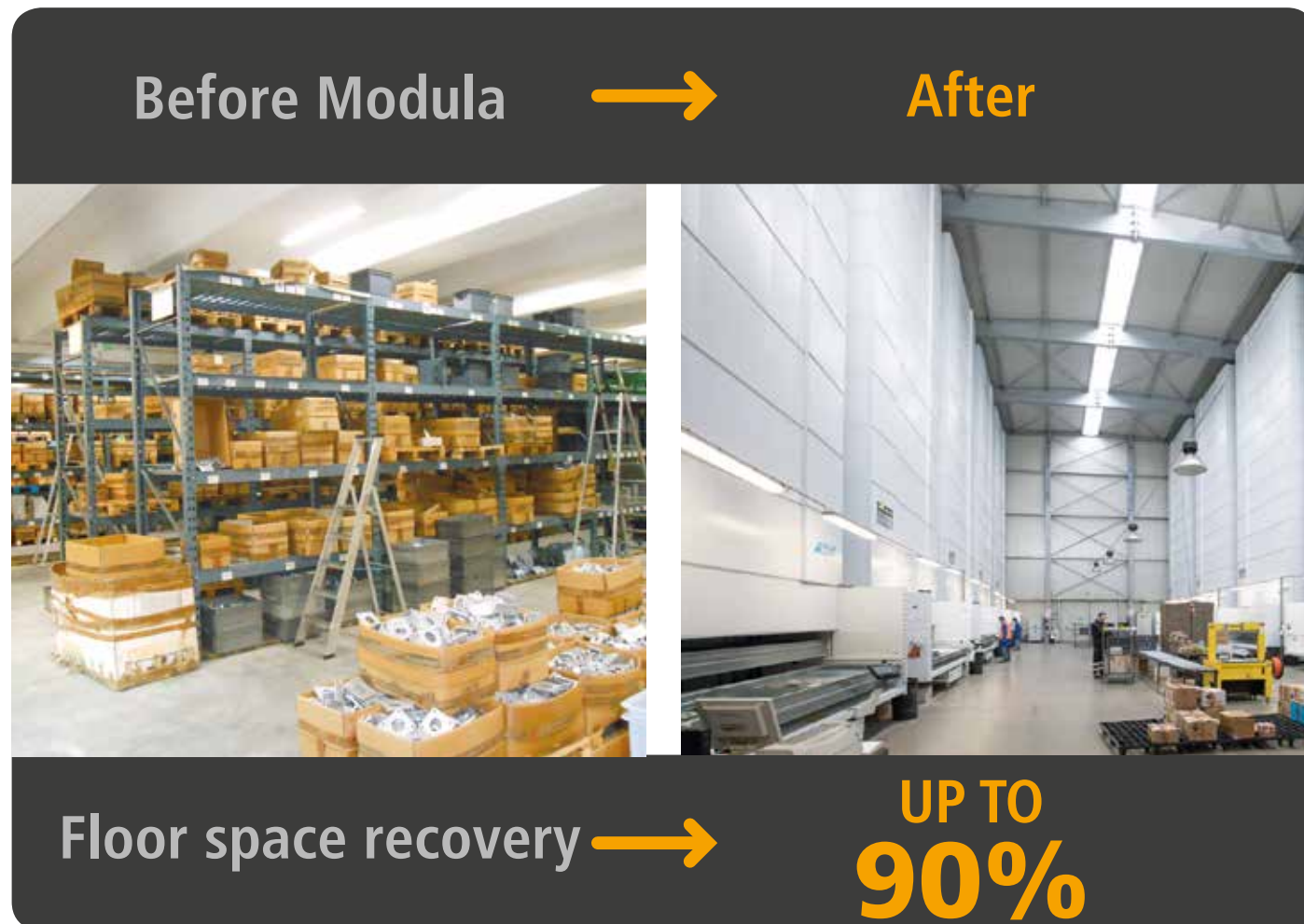
MAIN ADVANTAGES
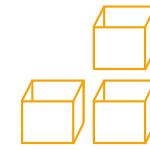
1. RECOVER FLOOR SPACE

Modula's vertical structure (available up to over 16 metres high) together with the reduced area it occupies allows up to 90% of floor space to be recovered.

2. SAVES TIME

Operators don't have to move around the warehouse to retrieve or store your goods. The products are brought directly to the picking bay using the "goods to man" principle.

3. REDUCE RISKS

Besides saving you time, Modula enables you to avoid potentially hazardous situations linked to operators moving around inside traditional warehouses and accessing high-level areas (shelves or mezzanines) using stairs and trolleys.

4. INCREASES SECURITY

Access to materials stored inside the warehouse is only permitted to authorised operators with the correct approvals (badge, password). Each access can be tracked and even limited to specific trays through dedicated permissions.

5. IMPROVES PRECISION

Using the simple and intuitive visual tools, each operator can easily identify those products that need to be stored or retrieved from the automatic warehouse. This saves an enormous amount of time and money thanks to the drastic reduction in mistakes.

6. IMPROVES STOCK MANAGEMENT

Every time goods are stored or retrieved, the operator is given clear indications about theoretical stock levels and can compare these with real stock levels and facilitate their alignment in the event of an inventory.

Saves space and time, improves security and flexibility.

Automatic vertical warehouses represent the most flexible solution for any industrial storage requirements. They are constructed with a robust load-bearing structure which houses and supports the trays, a central motorised elevator for moving them from the supporting shelves down to the operator bays and one or more bays for picking and refilling of materials. Thanks to Modula know-how, which has been gained through over 30 years experience, a whole range of vertical technologies with specific features for various sectors is available.

You can choose from:

Modula Lift

Modula Sintes1
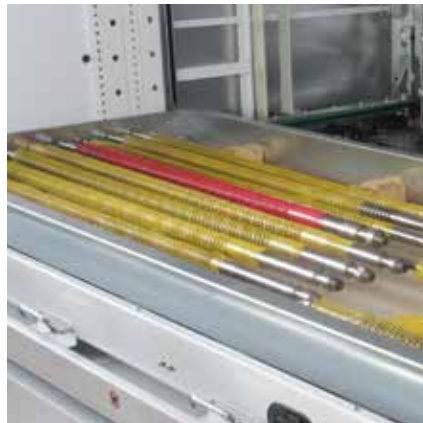
THROUGHPUT OF UP TO 120 TRAYS/HOUR

4 BAY CONFIGURATIONS

990 KG PAYLOAD FOR TRAYS UP TO 4100 mm

SELF-CENTERING PULLEYS
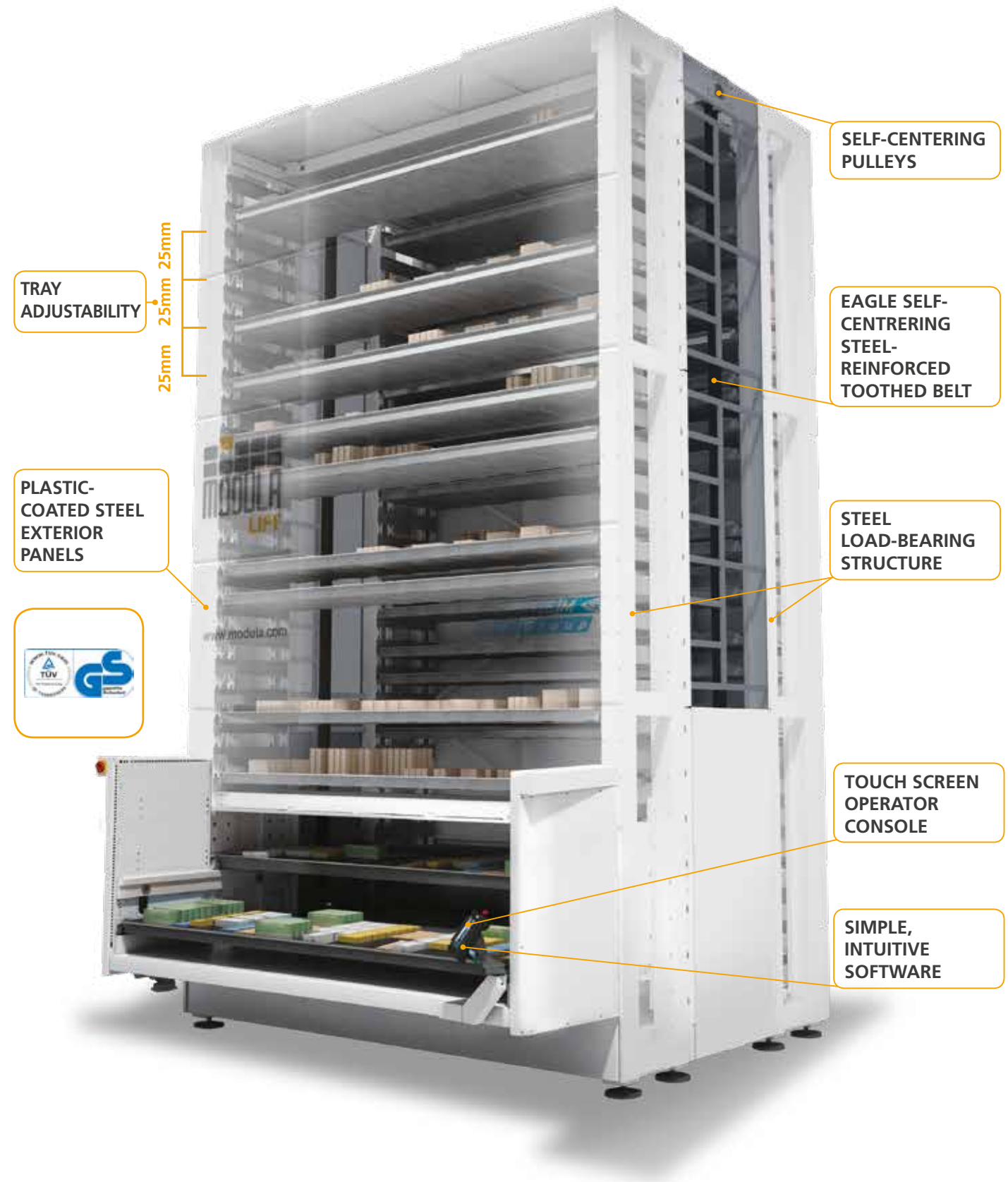
TRAY ADJUSTABILITY

25mm 25mm 25mm 25mm

EAGLE SELF-CENTRERING STEEL-REINFORCED TOOTHED BELT

PLASTIC-COATED STEEL EXTERIOR PANELS

STEEL LOAD-BEARING STRUCTURE

TOUCH SCREEN OPERATOR CONSOLE

SIMPLE, INTUITIVE SOFTWARE

BAYS

Bay configurations:
internal or external, single or dual

Modula offers you various configurations for picking and refilling bays. Guarantees operators 100% efficiency, ergonomics and safety.

- The **internal bay** is the ideal solution for when you need to limit the floor space occupied by the machine.
- The external **bay** provides a very ergonomic working environment for operators. This is the best choice for when using a combination of bridge cranes or mechanical manipulators to lift heavy objects.

Both of these configurations (internal and external bays) can be fitted with a **single delivery level**, suitable for when access to the machine is sporadic or for when picking time for the operator is very short.
The **dual delivery level**, however, increases productivity significantly by reducing wait times.
The waiting tray is presented to the operator only a few seconds after the previous tray has been completed. When combined with an external bay, this almost simultaneous changeover of trays can increase productivity significantly.
Where it might be useful to operate from both sides of the warehouse, you can opt for the **opposed bay**. In this way, you can have access to the warehouse from two different places. For example, this could be useful when serving two different production lines which need the same products.

SINGLE INTERNAL BAY

SINGLE EXTERNAL BAY

DUAL INTERNAL BAY

DUAL EXTERNAL BAY

COPILOT CONSOLE

User-friendly touch screen console

Modula machines are fitted with a touch screen operator interface (Copilot) designed for the industrial environment which allows access to all machine functions, simply and immediately.

The Modula touch screen console has a modern interface developed with a colour graphics environment with simple icons. The result is extremely intuitive for the operators and they don't need any particular training for everyday use.

Copilot is installed next to the picking and refilling bay at an ergonomic height.
This position is designed to avoid any contact between operators and the safety light curtains which might occur if the operator console were to be positioned in other parts of the bay.

Copilot is also fitted with an integrated emergency e-stop button which can be quickly and easily pressed to stop the machine in complete safety.

Sliding console

Amongst the available options is the possibility of having a sliding console. The console slides easily along the entire length of the tray and allows the operator to have the user interface constantly at hand during picking and refilling operations.

ROBUST, FAST, INNOVATIVE

Maximum payload for each tray

Every model in the Modula Lift range offers the maximum load capacities for all tray sizes, independently of tray width and depth.

Up to 990 Kg
for trays up to 4100 mm

Robust, fast, efficient

The external panels are made of plastic-coated steel and give the Modula machine an elegant appearance, with a unique and unmistakable design. Transmission is provided by the Eagle, steel-reinforced toothed belt that provides a solution which is silent, "clean" and reliable. It allows the elevator to carry out fast tray movements. This toothed belt is currently the best performing on the market. It is extremely quiet, requires no lubrication and little maintenance.

OUR ADVANTAGES: safety and ergonomics

OUR ADVANTAGES: WMS software

OPERATOR SAFETY

Modula vertical warehouses are TÜV-GS certified as they are built with all necessary safety protection systems. They are fitted with physical and photoelectric safety curtains which make the operator work station 100% safe.

SAFETY
LIGHT
CURTAINS

MECHANICAL
SAFETY
BARRIERS

MODULA WMS: THE WAREHOUSE SOFTWARE

Modula WMS is the ideal software for the management of any type of automated or manual warehouse. This perfect complement to Modula Lift warehouses has also been designed as standalone software.
It is designed completely in-house by Modula and this guarantees all the necessary skills are available to provide excellent pre- and after-sales service.
Various types of licence and various software modules are available which can satisfy the needs of any application.
The software includes a graphical tool for managing the tray layout and interfaces with various ERP systems, such as SAP, Oracle and many others.

WMS

ERP

LIFT TECHNOLOGIES

Modula **LIFT**
THE automatic vertical warehouse
which resolves your space
and security issues

MODULA LIFT

Launched onto the market in 1987 and with thousands of machines installed around the world, Modula Lift is one of the most reliable and widely-used vertical warehouses in Italy and globally.

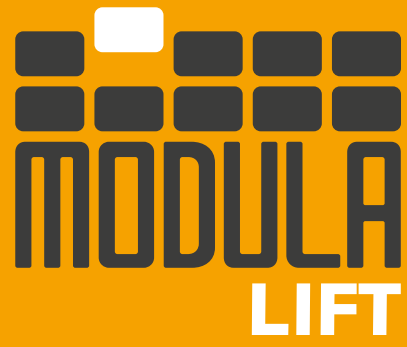Modula Lift represents the ideal solution for storing industrial and semi-finished products, spare parts and any kind of product in any industrial environment and any department. A large number of companies have already chosen it to reorganise and improve their workflow, for its flexibility, wide range of models, design and ease of use.

The Modula warehouse is used in the automotive, aeronautics, chemicals, mechanical, metallurgy and ceramics sectors, along with many others. In the logistics, e-commerce and 3PL field, Lift warehouses are a fundamental resource for managing all your despatching and for order traceability.

Modula Lift is available in these models:

- MA - MAD
- MC - MCD
- MX - MXD
- ML - MLD

with a payload of 250-990 kg per tray

870 m² and 80 m³
in 14 m²

up to
90,000 kg
total payload

TECHNICAL SPECIFICATIONS

Unit heights: **from 3,300 mm to 16,100 mm**
Unit height increment: **200 mm**
Tray storage pitch: **25 mm**

Tray widths: **from 1,900 mm to 4,100 mm**
Tray depths: **654 mm & 857 mm**
Net tray payload: **250-500-750-990 kg**
Total net payload: **from 40,000 kg to 80,000 kg depending on model and configuration**
Total gross payload: **from 50,000 kg to 90,000 kg depending on model and configuration**

Maximum stackable height: **695 mm (bay S) / 895 mm (bay M) / 1,295 mm (bay XL)**
Throughput: **up to 120 trays/hr (depending on the configuration)**
Operator interface: **Industrial console with 10.4" touch screen technology**

Number of bays: **up to 3, also above ground level and on the same side**
Types of bay: **internal or external with single or dual delivery level**

Minimal energy consumption
Automatic weight check on tray return
Dynamic tray storage height
Load-bearing structure in galvanised steel
Eagle steel-reinforced toothed belt transmission
Elevator guide system with 6 HDPE rollers per side

Modula Lift can be integrated with

Modula WMS
The software which can be combined with a Modula machine or used standalone and which manages all warehouse operations.

Modula OPTIONS
To extract the maximum benefit from your Modula automatic warehouse and increase the productivity of the proposed solution, a full range of dedicated options is available.

LIFT MODELS

MA & MA-D

Model	Width tray (mm)	Depth tray (mm)	Unit height tray wall tray (mm)	Net tray payload (kg)	Unit footprint with INTERNAL bay (Width x Depth) (mm)	Unit footprint with EXTERNAL bay (Width x Depth) (mm)
MA25	1,900	654	45 / 70 / 120	250	2,317x2,556	2,317x3,246
MA25D	1,900	857	45 / 70 / 120	250	2,317x3,165	2,317x4,058
MA50	1,900	654	70 / 120	500	2,317x2,556	2,317x3,246
MA50D	1,900	857	70 / 120	500	2,317x3,165	2,317x4,058
MA75	1,900	654	70 / 120	750	2,317x2,556	2,317x3,246
MA75D	1,900	857	70 / 120	750	2,317x3,165	2,317x4,058
MA1000	1,860	654	120	990	2,317x2,556	2,317x3,246
MA1000D	1,860	857	120	990	2,317x3,165	2,317x4,058

2,317 mm

The provided data is not binding upon the company, which reserves the right to make changes without prior notice.

MX & MX-D

Model	Width tray (mm)	Depth tray (mm)	Unit height tray wall tray (mm)	Net tray payload (kg)	Unit footprint with INTERNAL bay (Width x Depth) (mm)	Unit footprint with EXTERNAL bay (Width x Depth) (mm)
MX25	3,100	654	45 / 70 / 120	250	3,517x2,556	3,517x3,246
MX25D	3,100	857	45 / 70 / 120	250	3,517x3,165	3,517x4,058
MX50	3,100	654	70 / 120	500	3,517x2,556	3,517x3,246
MX50D	3,100	857	70 / 120	500	3,517x3,165	3,517x4,058
MX75	3,100	654	70 / 120	750	3,517x2,556	3,517x3,246
MX75D	3,100	857	120	750	3,517x3,165	3,517x4,058
MX1000	3,060	654	120	990	3,517x2,556	3,517x3,246
MX1000D	3,060	857	120	990	3,517x3,165	3,517x4,058

3,517 mm

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MC & MC-D

Model	Width tray (mm)	Depth tray (mm)	Unit height tray wall tray (mm)	Net tray payload (kg)	Unit footprint with INTERNAL bay (Width x Depth) (mm)	Unit footprint with EXTERNAL bay (Width x Depth) (mm)
MC25	2,500	654	45 / 70 / 120	250	2,917x2,556	2,917x3,246
MC25D	2,500	857	45 / 70 / 120	250	2,917x3,165	2,917x4,058
MC50	2,500	654	70 / 120	500	2,917x2,556	2,917x3,246
MC50D	2,500	857	70 / 120	500	2,917x3,165	2,917x4,058
MC75	2,500	654	70 / 120	750	2,917x2,556	2,917x3,246
MC75D	2,500	857	70 / 120	750	2,917x3,165	2,917x4,058
MC1000	2,460	654	120	990	2,917x2,556	2,917x3,246
MC1000D	2,460	857	120	990	2,917x3,165	2,917x4,058

2,917 mm

The provided data is not binding upon the company, which reserves the right to make changes without prior notice.

ML & ML-D

Model	Width tray (mm)	Depth tray (mm)	Unit height tray wall tray (mm)	Net tray payload (kg)	Unit footprint with INTERNAL bay (Width x Depth) (mm)	Unit footprint with EXTERNAL bay (Width x Depth) (mm)
ML25	4,100	654	70 / 120	250	4,517x2,556	4,517x3,246
ML25D	4,100	857	70 / 120	250	4,517x3,165	4,517x4,058
ML50	4,100	654	120	500	4,517x2,556	4,517x3,246
ML50D	4,100	857	120	500	4,517x3,165	4,517x4,058
ML75	4,100	654	120	750	4,517x2,556	4,517x3,246
ML75D	4,100	857	120	750	4,517x3,165	4,517x4,058
ML1000	4,060	654	145	990	4,517x2,556	4,517x3,246
ML1000D	4,060	857	145	990	4,517x3,165	4,517x4,058

4,517 mm

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Modula **LIFT** Applications

Modula **LIFT** Applications
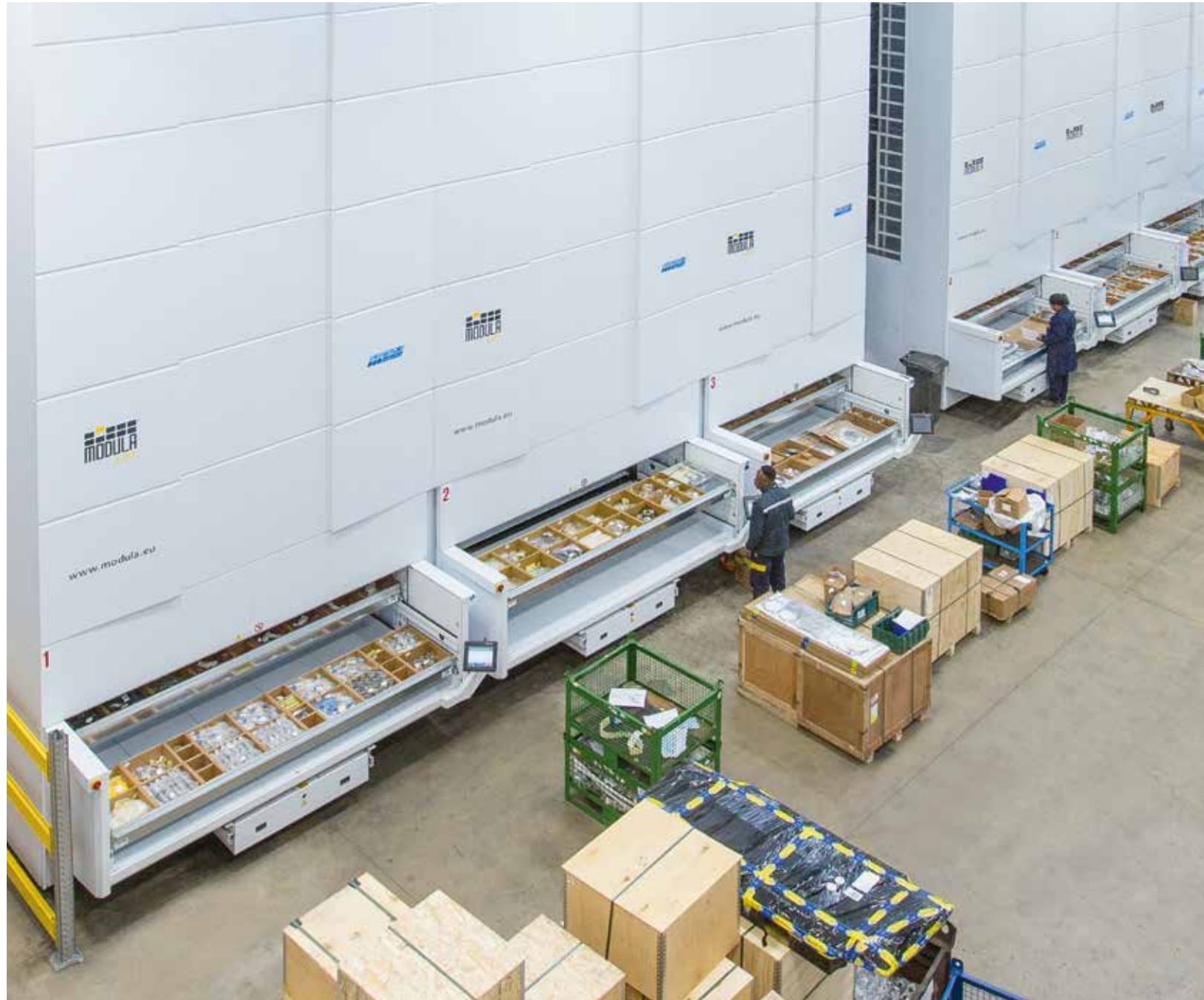
Modula **SINTES1**
Ideal for storing small lightweight items

- Fast
- Easy
- Intelligent

Modula SINTES1

An automatic vertical warehouse tailor-made for smaller spaces, ideal for the storage of small items, such as electronic components, pharmaceuticals and tools.

This system optimised the available space in your company, even where the available floor space is limited.

The Modula Sintes1 features a modern, elegant design, with an internal structure in pressed steel and external panels in plastic-coated steel. All of this created in a technologically-advanced production facility.

Why Modula Sintes1?

- For storing small lightweight products
- Because it can be installed in limited spaces, also with low ceilings
- Because it is suited to any sector, industrial or not
- For its high operating throughput
- Because it requires minimal investment

The Modula Sintes1 is available in two models:

- SINTES1.3
- SINTES1.7

Simply Intelligent

Technical specifications

Unit heights: **from 2,600 mm to 7,100 mm**

Unit height increment: **100 mm**

Tray storage pitch: **25 mm**

Tray widths: **1,300 mm & 1,700 mm**

Tray depth: **654 mm**

Maximum stackable height: **680 mm**

Net tray payload: **200 kg**

Total net payload: **25,000 kg**

Total gross payload: **30,000 kg**

Throughput: **up to 140 trays/hour**

Operator interface: **Industrial console with 10.4" touch screen technology**

No. of operator bays: **up to 2, floor level only**

Types of operator bays: **internal or external with single or dual delivery level**

Minimal energy consumption: **1.5 kW vertical axis motor**

Automatic weight check on tray return

Dynamic tray storage height

STEEL reinforced toothed belt transmission

Elevator guide system with 4 polyurethane rollers per side

Modula SINTES1 can be integrated with
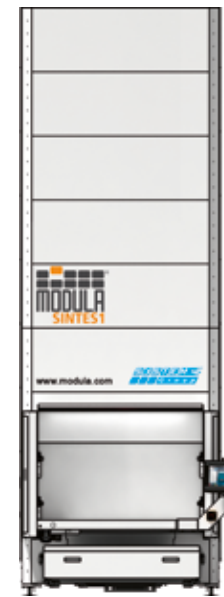
Modula **WMS**

Modula **OPTIONS**

Sintes1 Models

Sintes 1.3

Model	Tray width (mm)	Tray depth(mm)	Tray wall height (mm)	Tray payload (kg)	Unit foot-print with INTERNAL bay (W x D mm)	Unit foot-print with EXTERNAL bay (W x D mm)
SINTES1.3	1,300	654	31-56	200	1,650x2,376	1,650x3,101

The provided data is not binding upon the company, which reserves the right to make changes without prior notice

Sintes 1.7

Model	Tray width (mm)	Tray depth(mm)	Tray wall height (mm)	Tray payload (kg)	Unit foot-print with INTERNAL bay (W x D mm)	Unit foot-print with EXTERNAL bay (W x D mm)
SINTES1.7	1,700	654	31-56	200	2,050x2,376	2,050x3,101

The provided data is not binding upon the company, which reserves the right to make changes without prior notice

Modula SINTES1
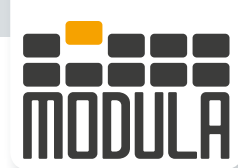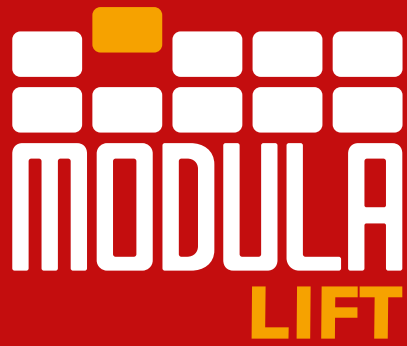
Modula OPTIONS
There is always a choice right for you!

Available options	LIFT	SINTES1	WMS REQUIRED	NOTES
LED BAR	●	●	●	each bar is not compatible with the others
ALPHANUMERIC BAR	●	●	●	each bar is not compatible with the others
LASER POINTER	●	●	●	
MAGNETIC BADGE READER	●	●	●	not compatible with EKS
EKS Reader	●	●	●	not compatible with the MAGNETIC BADGE READER and with electrified trays in configurations with external bay
RFID reader	●	●	●	
Put-to-Light	●	●	●	
Picking cart	●	●	●	
Counting scale	●	●	●	
Label printer	●	●	●	
Barcode reader	●	●	●	
Sliding console	●			not compatible with telescopic bay and trolley
Tray Options (partitions - dividers - tray extensions - slotted tray walls)	●	●		not compatible with electrified trays
Automatic door	●	●		
Trolley conveying the trays	●	●		only with internal bay / not compatible with ESD, telescopic bay, sliding console or robot interface
Telescopic bay	●			only with internal bay / not compatible with ESD, trolley, sliding console or robot interface
End picking pedal	●	●		
End picking command	●	●		
External bay LED lighting	●	●		not compatible with trolley or telescopic bay
ESD Protection	●	●		not compatible with telescopic bay and trolley
Weight distribution plates	●	●		
Electrified tray	●	●		not compatible with EKS READER in configurations with external bay
Modula Green	●	●		
Robot integration	●	●	●	

LED BAR
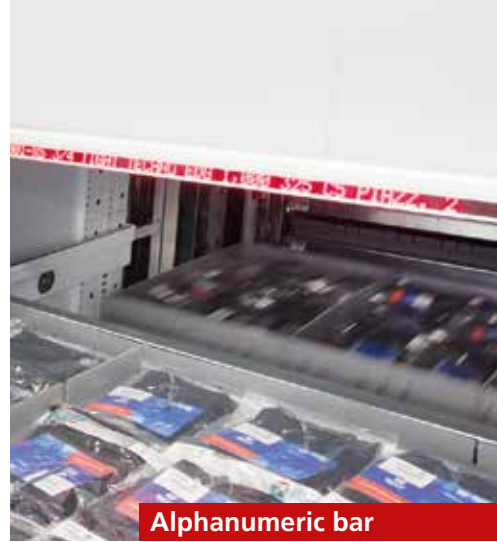
Alphanumeric bar

Laser pointer

Badge reader

EKS Reader

RFID reader

Put-to-Light

Picking cart

Tray Options

Counting scale

Label printer

Barcode reader

Sliding console

Automatic door

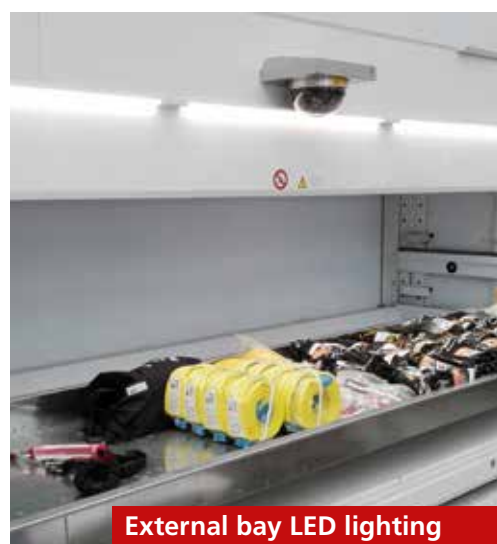Trolley conveying the trays

Telescopic bay

End picking button

End picking pedal

External bay LED lighting

ESD Protection

Weight distribution plates

Electrified tray

Modula Green

VISUAL PICKING AIDS

These options make picking and refilling operations easier and more efficient, reducing the chances of the operator making a mistake.

LED BAR

The LED BAR is installed on the upper part of the operator bay, in a clearly visible position. When a specific segment of the bar lights up, this indicates clearly and precisely the section of the tray involved in the picking/refilling operation. By indicating the position of an element on the X axis of the tray (width), the operator can quickly identify the correct compartment, reducing picking errors and times.

Alphanumeric bar

In addition to the features provided by the LED BAR, this device is also able to provide further information for picking and refilling operations, e.g. quantity, code, description of the elements to be picked/refilled and their position on the Y axis (depth) of the tray via a system of coordinates.

VISUAL PICKING AIDS

LASER POINTER

This device is a 2-axis pointer.
The material that needs to be picked is indicated precisely by the intersection of a **red holographic laser line**. This identifies the position on the "X" axis (width) and a **green spot** identifies the position on the "Y" axis (depth).

USER AUTHENTICATION

Badge reader

The magnetic badge reader can be directly connected to the Copilot console via the USB port. This is the ideal tool for when you want increased access control compared to the standard login and password entered via the console. The operators use their own personal badges to access the machine in order to prevent unauthorised accesses.

EKS Reader

The EKS is an electronic key reader for tracking access. It is perfect for industrial applications, as it has a sturdy structure and an IP67 protection rating. The electronic keys can be programmed using dedicated software and are fitted with a device which contains a memory chip and transponder.
These operate without batteries. The advantages offered by this device are the same as those on a badge reader, with the further option of automatically controlling logout, when the electronic key is removed from the reader. The device is fitted with an Ethernet interface for connection to the control PC on which Modula WMS is installed.

RFID reader

The RFID reader acts like the magnetic badge reader, but reads signals differently. There is no need to swipe with the RFID reader. Just place the badge close to the reader and authentication is wireless and contactless.

OPTIONS FOR ORDER PREPARATION

Put-to-Light

Put to Light allows operators to increase the number of order lines they can process simultaneously. This is because total picking time is less than the sum of all the time it takes to pick each individual order. By preparing several orders simultaneously, total picking time is less than the sum of all the time it takes to prepare each individual order. In the Put to Light system, the same number of locations for refilling as there are orders to be completed simultaneously are set up. The Modula WMS software links a specific refill order to each location. The supplied system is made up of one or more 3-metre bars which can be connected together to cover the required length of the application. The bars support and feed the actual Put to Light devices which guide the user during refilling of the various locations. Each location has a three-colour display **(yellow, red, green)** each of which corresponds to a specific Modula machine. The operator can therefore pick from an individual Modula machine (e.g. green) and then go refill the location which is showing green at that moment. The display indicates the number of pieces which need to be refilled and a special button allows confirmation that this has been done, or allows the quantity to be rectified. This can operate in "Batch" or "Multi-order" modes depending on the individual client's implemented operating flows.

Picking cart

This is a mobile trolley with various picking positions, which contains a Put to Light system to validate current picking and refilling operations.

It is equipped with a battery and a Wi-Fi system to communicate with Modula or manual storage systems, but it requires a WMS Premium licence + advanced picking and a basic EMS licence.

Picking from manual warehouse (with WMS manual warehouse licence)

The requests from WMS are displayed on a PC or on a Windows tablet supplied by the customer, and guide the operator during picking operations via differently coloured illuminated buttons. An advanced EMS licence is required to consolidate orders.

There are two different picking modes:
• M2M: requests are sent to the Modula in suspended mode via the Copilot or automatically live on the Modula.
• General Picking: requests are carried out on all Modula machines. The operator works by validating all extracted items.

OPTIONS FOR INCREASING PRODUCTIVITY

Counting scale

This device is capable of counting the number of objects placed on the plate according to the unitary weight of each individual piece. THIS IS the ideal tool for when a certain number of small objects (bolts, screws or similar) need to be picked or refilled quickly and precisely.

The scales can be supplied with a single plate with a load capacity of 3/6/15/30/60 kg or with a double plate with combinations of 3 + 15 kg or 6 + 30 kg.

Label printer

This is for printing customised sticky labels and posters with information on stored material.
During picking and refilling operations in Modula warehouses, the operator can enter the required information via the Copilot console and print it instantly onto labels to be attached directly to the boxes and packets or to identify the goods.
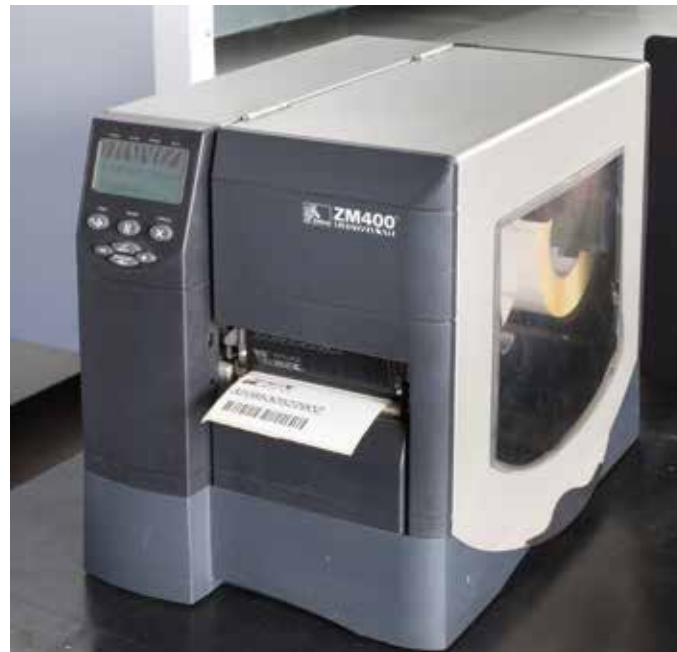
OPTIONS FOR INCREASING PRODUCTIVITY

Barcode reader

Barcode readers are often used when the elements picked from or refilled into the warehouse have complex codes and are difficult to distinguish. The use of barcodes improves the picking precision and ensures that the operator selects the right material.

Barcodes can also be used to confirm orders and/or log a user in. Barcode readers are wireless, so easy to move anywhere and available in 1D or 2D models.

Sliding console

This option helps the operator during intensive picking operations.
The Copilot Console can be moved close to the picking point along the entire length of the bay. This makes every operation easier, more comfortable and more efficient, even saving you operator "walking" time.
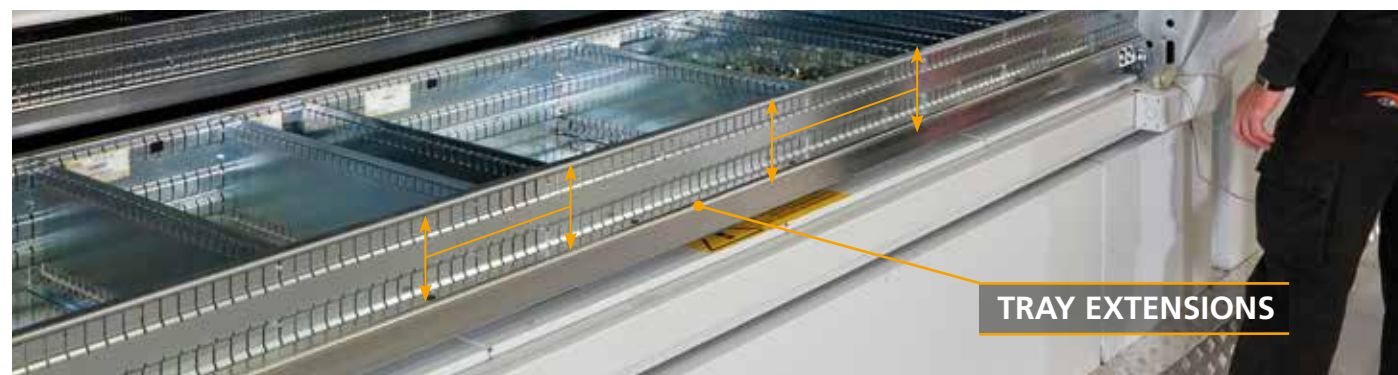
TRAY OPTIONS

Partitions, dividers, tray extensions, slotted tray walls

In order to perfectly arrange the material inside the trays, different metal partitions and dividers are available: to divide the trays, you use the slotted tray walls to then divide them into compartments of various sizes.
IT IS possible to increase the height of the tray walls using tray extensions, thus increasing the compartment volume, to hold more loose materials or prevent tall and bulky goods from spilling out of the trays.
Tray layout can be changed at any time according to specific needs, by simply moving these options around manually.

SLOTTED TRAY WALLS

TRAY EXTENSIONS

SEPARATORS

DIVIDERS

BAY OPTION

Automatic door

The automatic closing door is a motorised device offering the following advantages:

- greater security for stored materials, as they are not accessible when the machine is shut down or not being monitored
- reduced noise in the operator's workspace
- reduced quantity of polluting substances from the outside environment reaching the inside of the machine
- greater cleanliness of stored materials

The automatic door is mandatory for some specific configurations (dual internal bay or displaced bays) in order to guarantee the operators' safety.

Mobile Trolley

Available for the Lift and Sintes1 machines with internal bay, this device allows the operator to fully extract a tray from inside the machine, transfer it on to a mobile "Trolley" and transport it around the production unit. It can be used for trays with maximum payload of 500 kg and standard height off the ground (700 mm).

Telescopic bay

The telescopic bay is a device for extracting trays, available for Modula Lift machines with internal bay (height from ground 700 mm) and at the first delivery level. Once the tray is in the bay, this allows the operator to pull it out manually and easily load heavy material, possibly with the aid of lifting systems. Only the versions for 500, 750 and 990 kg machines are fitted with support feet with wheels to make it easier to extract heavy loads. The versions with feet cannot be installed where there is a displaced bay due to the gap between the machine and the operator's workstation.

End picking button

The End Picking Button provides a practical alternative to the Copilot and can be pressed to confirm an operation. The advantage is that it can be placed within 10 metres of the machine. This button is independent and does not require hardware modifications to the bay.

End picking pedal

This device is located on the ground in front of the bay and is activated using the foot. In this way picking operations can be confirmed even when the operator has no hands free (e.g. when lifting cartons or boxes)

External bay lighting

If the surrounding light is insufficient, the Modula can be fitted with an LED light above the bay that guarantees adequate lighting for the picking area. The device switches on when the tray is in the picking area and the machine starts to operate. The Copilot console can be used to set the duration of the lights and any configurations.

ESD Protection

Designed to protect stored components which cannot be subjected to electrostatic charges, it has an earth point to which up to 3 mobile devices can be connected, e.g. operator wrist bands and/or anti-static mat (optional).

Weight distribution plates

STEEL plates can be supplied to increase the base surface if the floor is insufficiently supportive. Anchoring these plates is mandatory for safety reasons in some warehouses with payloads of 750 - 990 kg and with at least two bays on the same side.

Electrified tray

This option can be installed only on Modula Lift. It offers the possibility of powering the trays electrically and therefore any material contained inside which requires an electricity supply (e.g. rechargeable lamps, computers, radios, etc.) With a 240V supply, it can be installed on a maximum of 10 trays inside the Modula machine.

Robot interface

Modula warehouses can interface with anthropomorphous robots. Prerequisites are as follows:
• WMS Premium licence to use the standard protocol for integration between the Modula unit and an anthropomorphous robot. Communications are possible via Siemens PLC or Sockets, with the same command structure used for both solutions.
• Robot interface kit installed on the electrical panel for management of electrical signals: 3 output signals from the Modula to the Robot and 2 input signals from the Robot to the Modula.

Modula Green

This device allows the dissipated heat from the descending lift to be recovered and converted into energy. Installed between the machine's power switch and the electrical panel. Converts kinetic energy into electricity, feeding it back into the grid and improving the process' environmental sustainability.
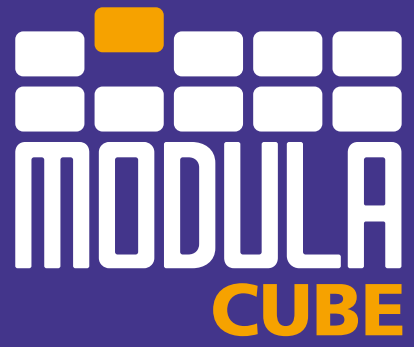
Modula **CUBE**
Modula automatic storage solution with a horizontal construction.

Modula CUBE

Modula Cube is the ideal horizontal storage solution for storing goods by optimising available space in areas with low ceilings.
It has a simple and intuitive touch screen console which allows great management of picking and refilling of goods inside the warehouse.

How it works

Modula Cube consists of various modules side by side, inside which the trays are arranged on two opposing columns.
A special shuttle moves horizontally at the bottom of the machine and vertically between the columns to retrieve the trays and bring them to the operator bays located at the front and/or rear of the machine.

Safety systems

Modula Cube has all the safety systems required to make the workplace safe and comfortable:

- Height control barriers check the height of the materials to be stored
- Vertical safety barriers
- Automatic door
- Bay with selective lighting system
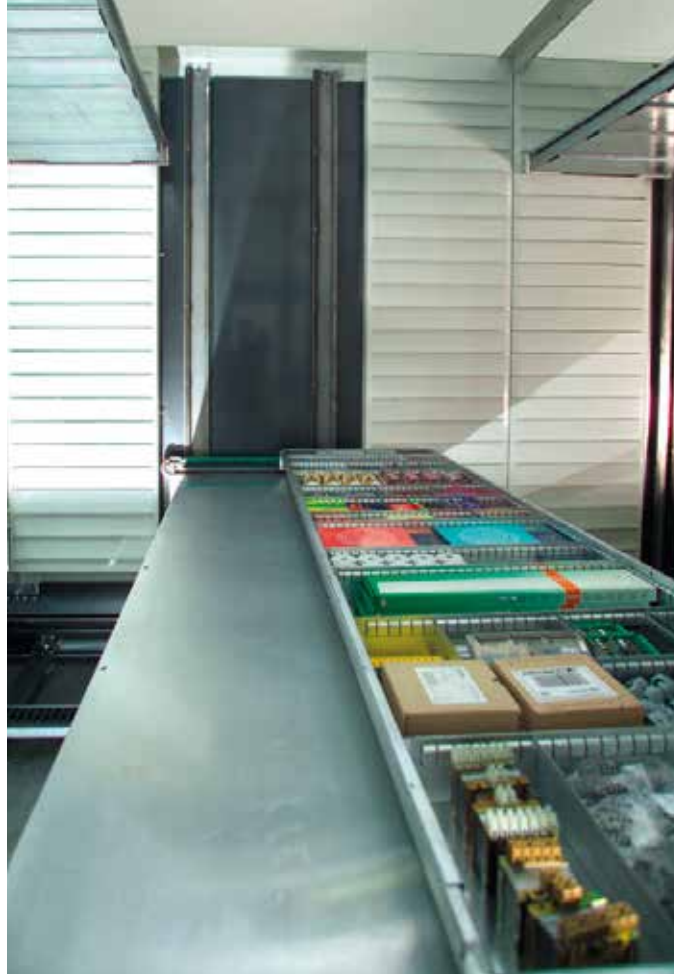
Technical specifications

Width: **2,930 mm / 3,580 mm**
Unit heights: **2,730 mm**
Number of modules: **1-6 / 1-5**
Depth (depending on number of modules): **from 2,270 mm to 13,870 mm / from 2,570 mm to 13,100 mm**
Tray storage pitch: **100 mm**

Tray widths: **2,530 mm / 3,185 mm**
Tray depths: **651 mm / 752 mm**
Maximum stackable height: **275 mm**
Net tray payload: **125 & 250 kg**
Total net payload: **49,500 kg**
Total gross payload: **58,000 kg**

Throughput (3 modules): **more than 60 trays/hour**
Operator interface: **Industrial console with touch screen technology**

No. of operator bays: **up to 2, front / rear**
Types of bay: **internal with single or dual delivery level**

Minimal energy consumption: **installed power rating 1.5 kW / 3.5 kW**
Load-bearing structure in steel

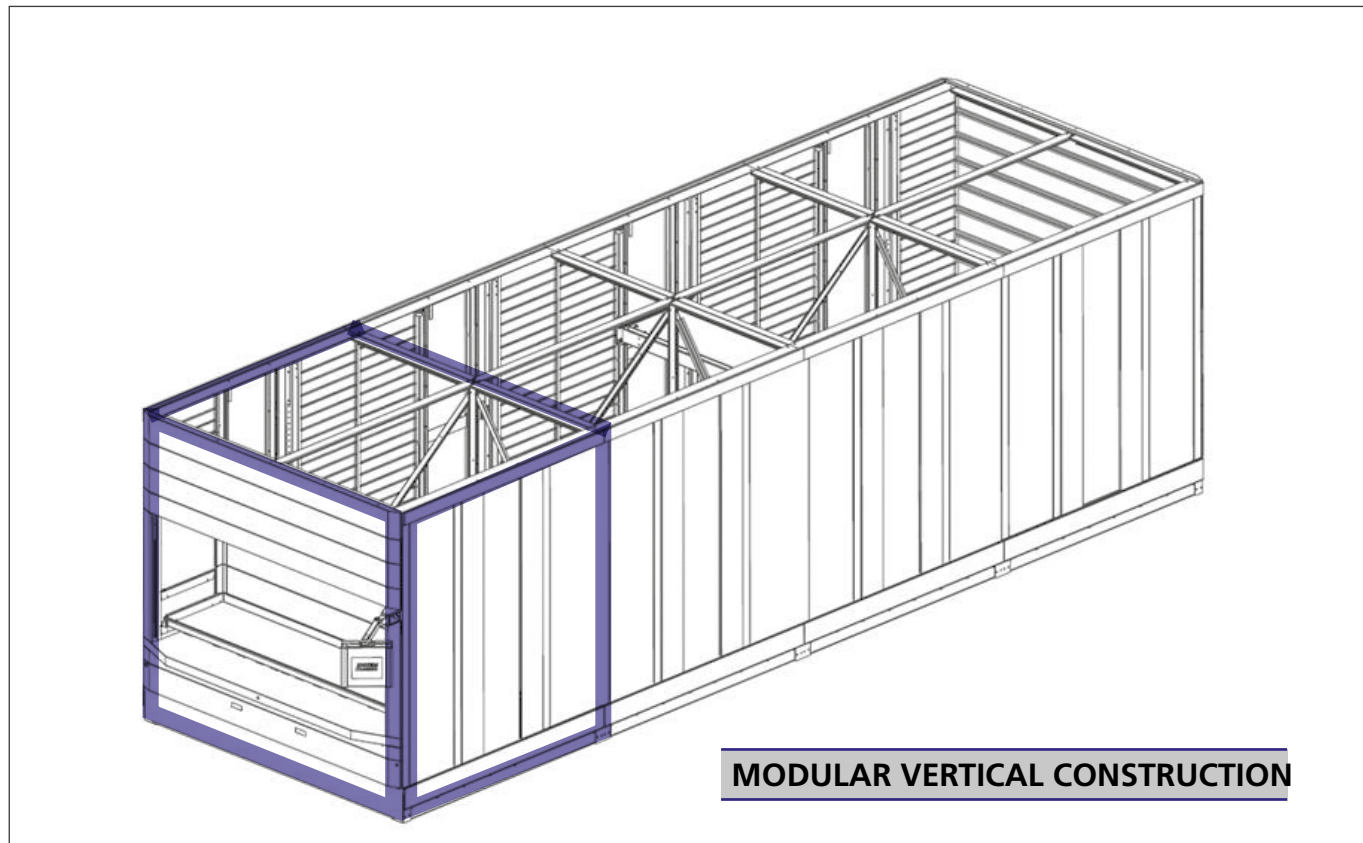Modula CUBE can be integrated with

Modula **WMS**

Cube Models

Cube

Model	CUBE
Width (mm)	2,930
Height (mm)	2,730
Number of modules	1-6
Module depth (mm)	2,270 (max. 13,870)
Tray width (mm)	2,530
Tray depth (mm)	651
Tray payload (kg)	125/250

The provided data is not binding upon the company, which reserves the right to make changes without prior notice

Cube+

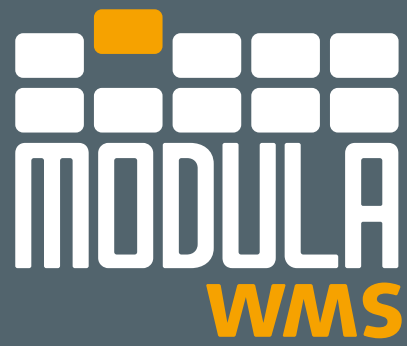| Model	CUBE+
Width (mm)	3,580
Height (mm)	2,730
Number of modules	1-5
Module depth (mm)	2,570 (max. 13,100)
Tray width (mm)	3,185
Tray depth (mm)	752
Tray payload (kg)	125/250

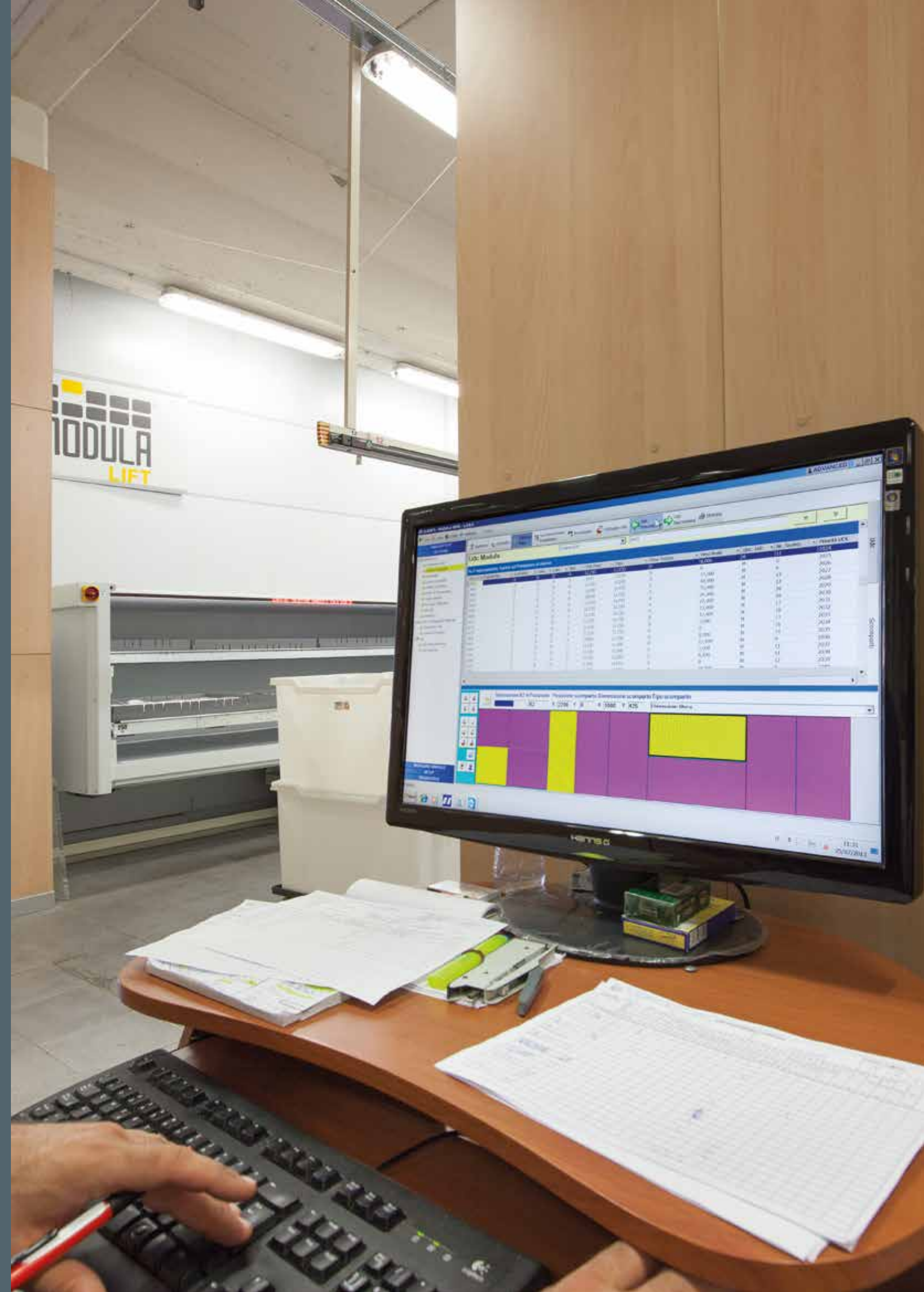The provided data is not binding upon the company, which reserves the right to make changes without prior notice

MODULAR VERTICAL CONSTRUCTION

Modula **WMS**
Warehouse management software

Warehouse Management System

Modula WMS software is a complete inventory management software ideal for traditional storage systems (manual racking areas) and automated storage systems.
Modula WMS software can be used as the perfect complement for managing Modula vertical warehouses or as a standalone software tool for managing traditional warehouses (manual areas).
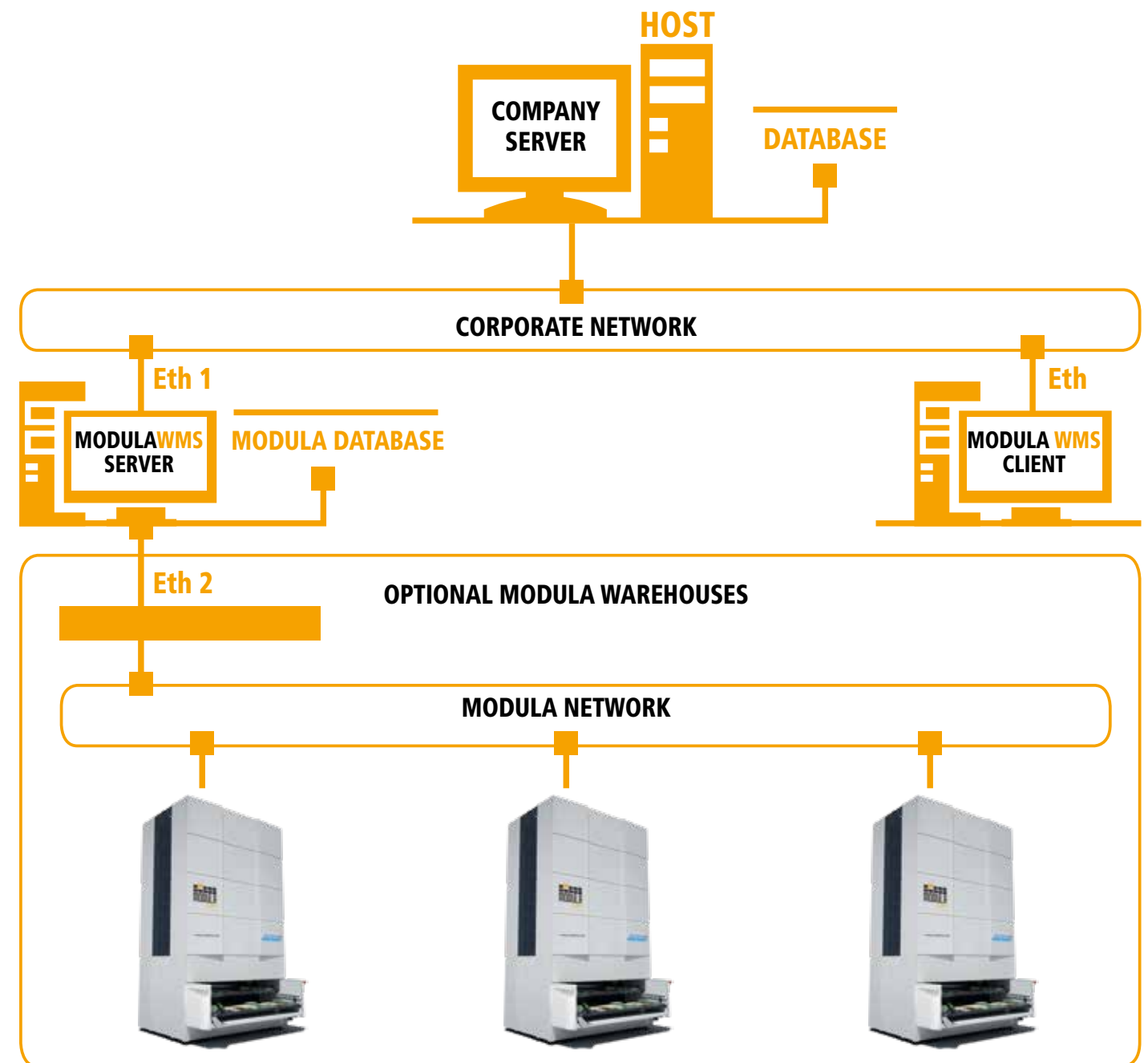
Modula WMS allows real-time warehouse management via a PC interface.
All that's needed is a PC to act as the warehouse server and a certain number of client PC's, depending on requirements.

Modula WMS installs the free Express version of SQL Server which does not require any licences. To use one of the more complete versions of the database engine, the client is responsible for obtaining the licenses as required. In either case the SQL Server database instance must be for the exclusive use of Modula WMS.

Software architecture

HOST

COMPANY SERVER

DATABASE

CORPORATE NETWORK

Eth 1

Eth

MODULAWMS **SERVER**   **MODULA DATABASE**

MODULA WMS **CLIENT**

Eth 2   **OPTIONAL MODULA WAREHOUSES**

MODULA NETWORK

Advantages of using WMS

Once you have chosen the right software for your needs, which will already be configured to interface with your ERP, it will be installed by our team. They will also help train your staff using dedicated training programmes.

1. OPTIMISATION

Static or dynamic management of locations without any inventory or warehouse redundancy.

2. ERP INTEGRATION

Easy integration with ERP (SAP, Oracle, Microsoft, etc.), MRP or other company applications, providing precise and continuous exchange of information between these systems and Modula WMS.

3. SAVES TIME

Traceability of materials and guided execution of loading and unloading to allow rapid order dispatch.

4. CONFIGURABILITY

Can be customised and adapted to current management flows without impacting the company's organisation.

5. CONTROL AND EFFICIENCY

Maximum control over processes via:
• automation of repetitive procedures
• rationalisation of movements
  and routes
• elimination of errors
•reduced paperwork

6. SIMPLE TO USE

Operating procedures have been designed to guarantee immediate and easy use, even by non-specialist personnel.

WMS INSTALLATION

Modula WMS software is installed by specialised computer technicians using a wizard that provides a guided installation procedure. Once the program has been installed on the server and on any clients, and the warehouse has been configured, the system is ready for immediate use.

Integration with ERP system

Our WMS systems come ready for connection to any ERP through a series of interfaces.
For integration with the company ERP, Modula provides blueprints for the creation of standard interfaces with protocols such as AS-CII, DRC, XML etc.

Training

After installation and the initial configuration of the Modula VLM units, the staff that will be using the software will receive basic training. On request, additional in-depth training sessions can be organised if required.

If your company doesn't have a WMS

BASE

MODULA
WMS BASE

Modula WMS Base is considered our entry level package and is bundled with a Modula purchase; it is suitable for the management of one or more warehouses. **This package can manage a maximum of 3 users (i.e. 3 PCs) and 2 clients.**

This package supports:
- Item management.
- Warehouse locations management using a graphical tool.
- Materials handling management through picking/refilling orders.
- Materials handling management through immediate requests.
- User management with three hierarchical access levels.
- Management of physical warehouse inventories.
- Manual import/export data exchange system with the client's ERP of fixed format ASCII files.
- Advanced security management with restricted access to specific item codes and trays based on user's role.

REMOTE ASSISTANCE VIA

TeamViewer
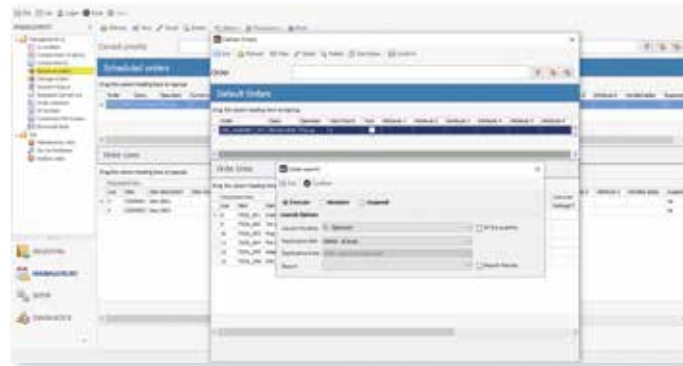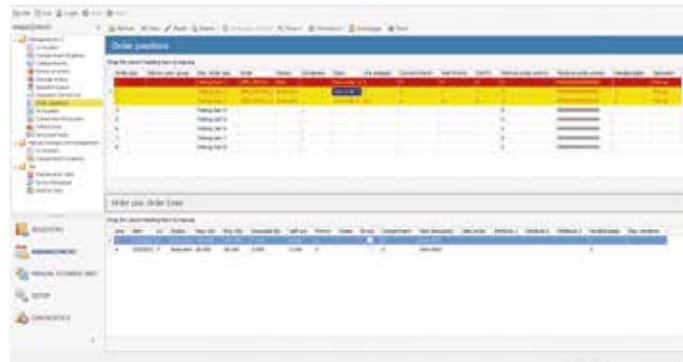
PREMIUM

MODULA
WMS PREMIUM

The most complete package for warehouse management. Provides all the functionalities of the BASE package, plus many others.

What does WMS Premium do?
- Automatic item-compartment allocation and dynamic location management.
- Lot and serial number management.
- Full management with custom tracking of automatic import/export in ASCII, ODBC, Excel and XML file formats.
- Material status management.
- Pack type management.
- Expiration date management.
- Advanced user management; configuration of enabled procedures for each individual user.
- Material management by FIFO (First Input First Output) or by sub-code priority (e.g. picking can be performed giving priority to the lowest and therefore the oldest code).
- Justification management for immediate requests.

STATISTICAL ANALYSIS AND CUSTOM REPORTS
- Full management of warehouse statistics.
- Customization of print reports via print management tool.
- Customization of printed label layout using dedicated tools.

REMOTE ASSISTANCE VIA

TeamViewer
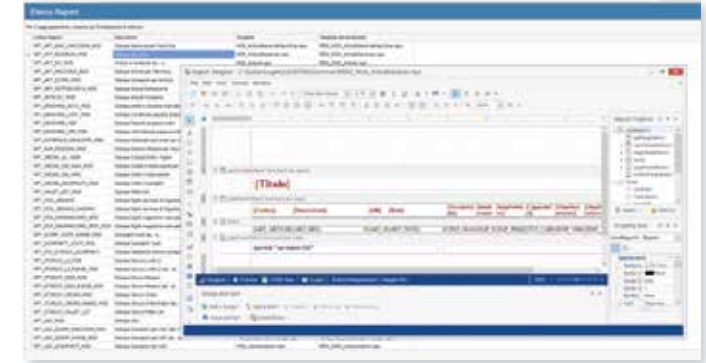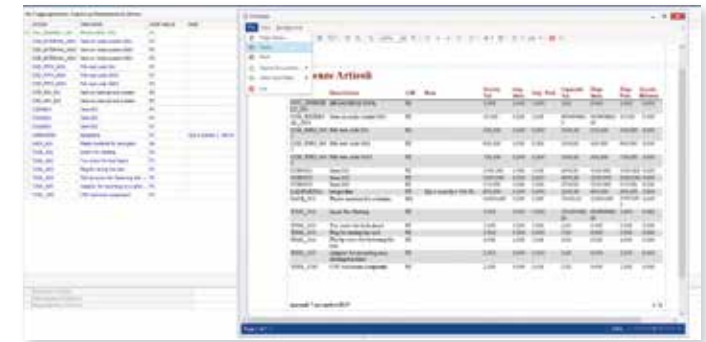
PREMIUM: optional modules

Advanced picking

This module provides functionality which improves picking and refilling.

- Packing list management.
- Assembly kit management.
- Shipping location management.
- Automatic creation of storage compartments during refilling phases.
- Serial number management (management of multiple serial numbers for the same item associated with an individual compartment).

The advanced picking module is ideal for the management of locations, picking carts, and Put-to-Light.

Advanced item management

This module extends the functionalities related to item management:

- Management of pre-defined orders that can be replicated as required.
- Association of images to items.
- Grouping of items into families to define common characteristics.
- Grouping of items into categories for improved search and filtering capabilities.
- Extended fields for item management, orders and order lines via additional attributes.
- Management of alternative item codes.
- Management of borrowed material picking.

Manual warehouse

This module enables software management of manual areas via the following functionality:

- Management of manual warehouses using an intuitive graphic tool.
- Management of picking activities in manual areas.
- Management of material splitting between different areas on the basis of the quantities handled.
- Management of material reintegration between areas on the basis of user definable minimum stock levels for different areas.
- Entry area management.
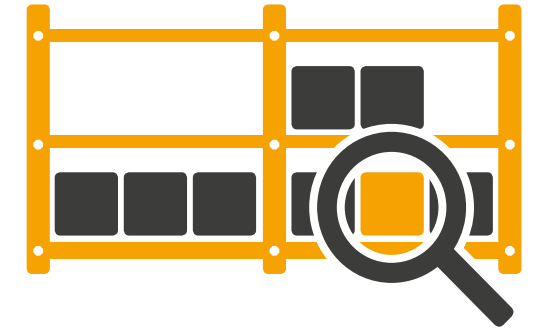
Radio frequency terminals

This module can extend the functionality of manual warehouse management with the use of radio frequency terminals based on Windows CE for all warehouse operations.
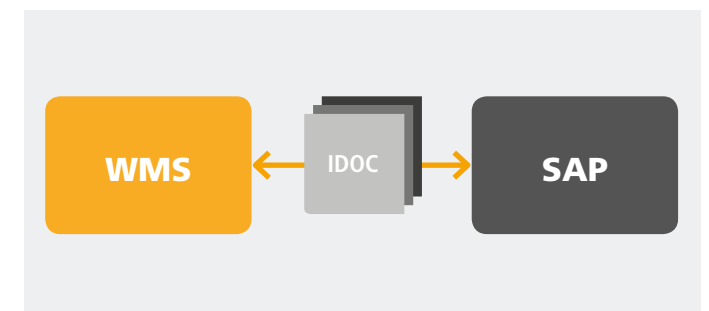
Modula does not supply terminals but recommends Motorola, Intermec, Denso.
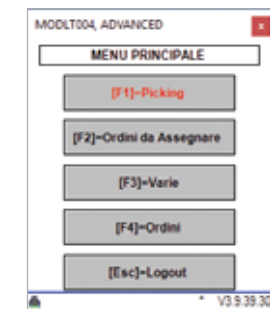
IDOC: ad hoc SAP protocol

This refers to the exchange of data between SAP WMS and Modula WMS (in ASCII format) via IDOC assuming that SAP contains the WM module.
The Modula WMS must be seen by SAP as a black box to which the requests and results of the requests are sent via IDOC.

If your company already use a WMS

DRIVER

MODULA DRIVER

Modula Driver allows high-level warehouse management by way of movement orders (pick, replenish or inventory). These orders are typically sent via an intermediate data base or text file: basically, lists of trays to be moved with the associated picking data.

Modula Driver does not manage item registries, stock and item storage locations (compartment), these being delegated to the company ERP, but it ensures that the HOST system knows the precise location of the items to picked or replenished.
For each operation, the host sends the information pertaining to the tray (Loading Unit) to be moved, and the Driver simply transfers the data.
When the Driver receives the request from the ERP, the operator, from the Modula console, can view the orders that have arrived and decide which to execute.
On the Modula console, in the picking page, the operator can view the data of each operation; once completed, operations must be confirmed immediately.
The operator can only vary the confirmed quantity if the need changes or if there is not a sufficient quantity of the material available.
Once the order is complete, Modula Driver can send the result of the movement to the ERP, which resumes control and proceeds with its own workflow.

This system can manage:
• Order preparation bays (with the possible addition of the Put to Light accessory).
• Warehouse historic/statistical data.

LINK

MODULA LINK

Modula Link is a software tool that enables an external Host System to control at low level a group of LIFT OS units using a set of commands managed via communication on a TCP/IP channel socket.

Modula LINK is the communications server: it opens a TCP port (configurable) and waits to receive commands; when it receives a valid command from the external Host System, it manages it and responds. Modula Link can be configured to manage commands from a single client (Mono-Client Communication) or from several clients (Multi-Client Communication).
When the Host System needs to call a tray, it uses the appropriate command. The moment the tray is ready in the bay, Modula informs the ERP, which proceeds with the operation and, on completion sends a command to return the tray to its location. Modula receives only one call tray request, the console shows the tray is ready, but does not inform the operator; it is the job of the ERP to inform the operator of the activities to carry out and asks for confirmation of the action.

Typically the picking tool used is an RF terminal, an external PC being less common.
With precise, real-time control of the warehouse, there is a series of advanced logistic functionalities with which the ERP may be equipped.
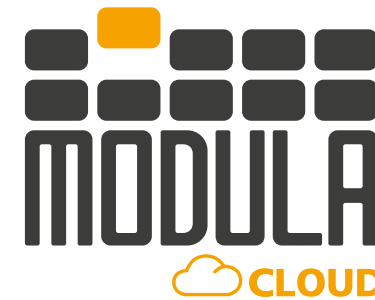
Your Modula systems under control

A Modula warehouse can be fitted with Modula Cloud. This control and diagnostics system allows you to access information about your warehouse remotely.
Entirely designed to improve the performance of warehouses and to control all operations, Modula Cloud is a valuable source of information for managing activities such as error signalling, technical assistance, maintenance and spare parts ordering.

Modula Cloud operates using WMS software, which receives the information from the warehouse and transfers it to the Cloud and loads it onto a dedicated website accessible via a URL. In this way, each user will be able to view all their machines including with Google geolocation.

Modula Cloud monitors:

• Warehouse operations.
• Malfunction lights and alarms.
• Historic archive of blocks and errors.
• Number of tasks per day or per period.
• Errors generated by operators.
• Maintenance count downs.
• Energy consumption, tray weights and unit heights.

Vertical warehouses have a device that can receive input "warning" signals when the machine experiences malfunctions, to notify, in real time, the customer who has access to the platform, and Modula's technical assistance who can then intervene providing appropriate support and preventive maintenance.

Given these warning signals, Modula's electromechanical department can intervene remotely to reset the machine in real time. They just need the operator to confirm via the console using a simple wizard menu.

Like any data collection tool, it is extremely valuable for monitoring and improving warehouse performance, reducing intervention times, and having control of the entire system with one click.

The other added value is having the data in the Cloud, accessible from anywhere with dedicated logins.
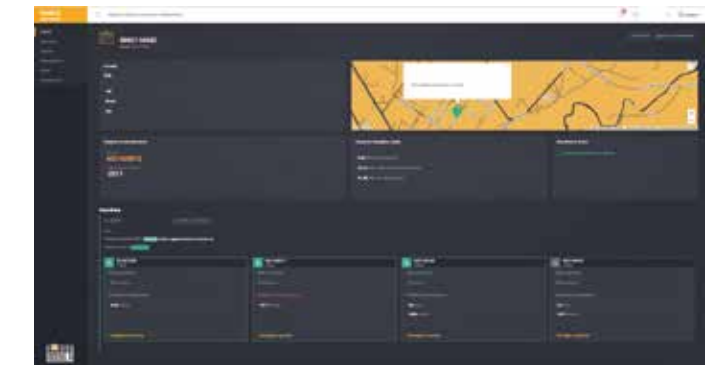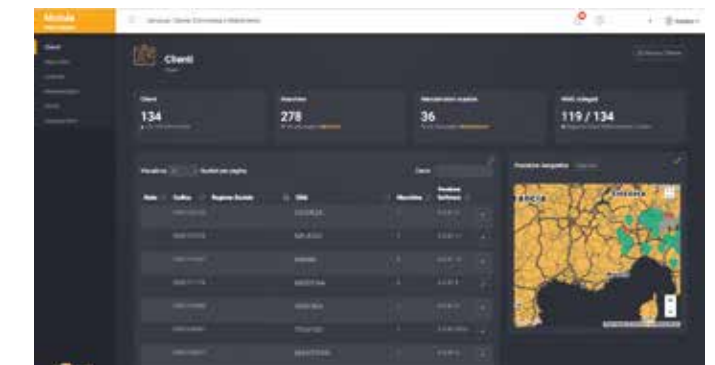
Customer **CARE**
Hardware and software
A dedicated service which
**will never let you down**
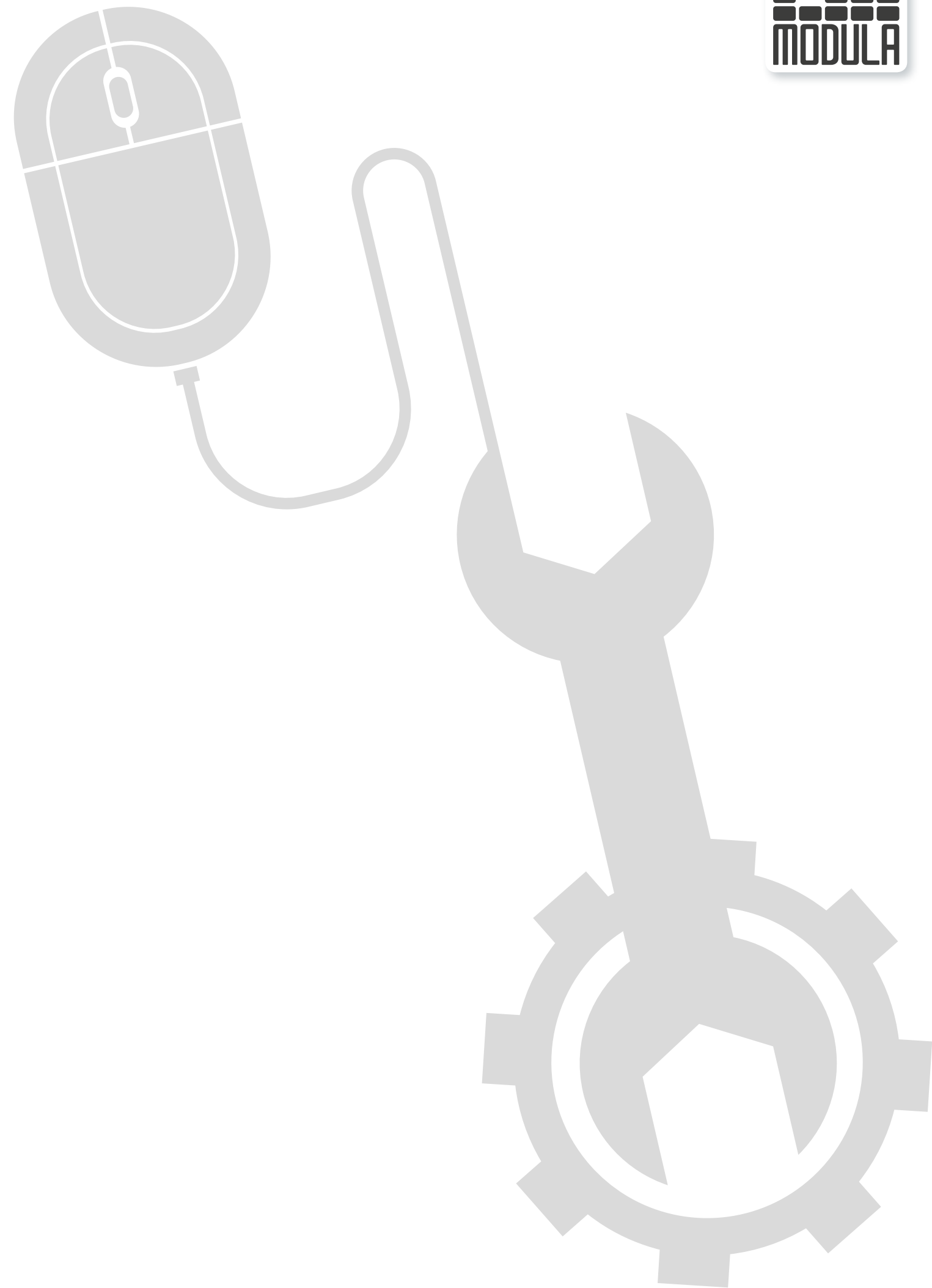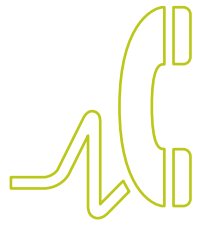
HARDWARE HELPDESK

Modula's help-desk is guaranteed for all customers. Most problems are handled and resolved over the telephone. Our qualified technicians are able to guide customers through small hardware and software operations.
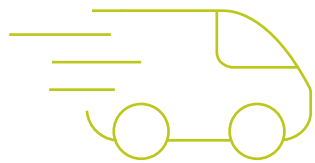
ON-SITE CORRECTIVE MAINTENANCE

Our specialised technicians can carry out on-site visits to resolve technical problems.
With the right spare parts, they can return the machine to working order immediately. Dedicated support packages providing appropriate response times can be agreed depending on customer requirements.
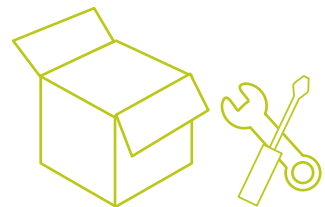
SUPPLY OF OPTIONS AND SPARE PARTS KITS

To optimise or improve the performance of your Modula warehouses, you can obtain additional options and accessories (partitions, tray extensions, etc.). Various original spare parts kits can be purchased which make it easy to quickly return your machines to working order in most stoppage scenarios.
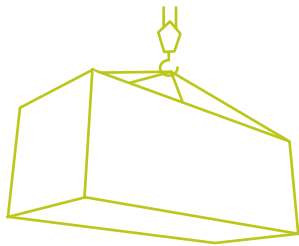
PREVENTIVE MAINTE-NANCE

To guarantee your warehouses function correctly, Modula offers periodic maintenance contracts depending on your usage times and/or the number of tray cycles completed.

Preventive maintenance offers:
• periodic checking of how your system is functioning (hardware, software)
• identification and elimination of any faults

MODIFICATIONS AND RELOCATION

An ad hoc on-site visit by our personnel is required for:
• structural modifications to warehouses (raising, lowering, addition of bays, installation of options and accessories, software implementation)
• relocation of warehouses within the same building or to a different location.
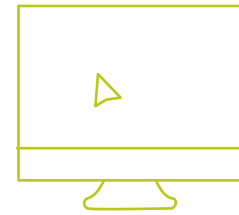
SOFTWARE AFTER-SALES SERVICE

To make your Modula machines perform even better, we offer a dedicated customer-focussed consultancy service for:
• database updates and maintenance, installation of additional WMS software modules.
• machine customisation via installation of options or accessories.

AFTER-SALES SOFTWARE TRAINING COURSES

Customers can purchase advanced training courses, aimed at operators or maintenance technicians, to increase their level of autonomy in the management of their warehouses

SOFTWARE HELPDESK

Our free telephone support service and is available to all customers who need it. Our remote support service via TeamViewer allows us to intervene remotely.
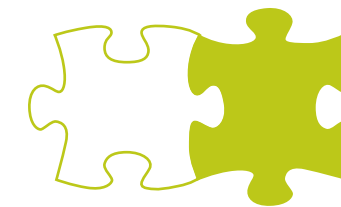
DEDICATED SUPPORT PACKAGES

Customers can purchase packages which provide special out-of-hours support or priority response (VIP recall).

Two special packages are available:
• Dedicated consultancy, updates, call conference, installations, PC replacement.

Think Vertical, Think Modula

Some references

CLOTHING
GIORGIO ARMANI	Italy
HERMES	Italy
NIKE	USA, Belgium
PRADA	Italy
VALENTINO	Italy

AERONAUTICS
BOMBARDIER	Germany
CHINA ACADEMY OF SPACE TECHNOLOGY	Cina
HINDUSTAN AERONAUTICS	India
LOCKHEED MARTIN	USA
LUFTHANSA	Cina

FOOD
CHOBANI	USA
GRISSIN BON	Italy
OISHI - LIWAYWAY CHINA	Cina

FURNITURE
ALLIANCE LAUNDRY	Czech Rep.
BIG HOME SHOP	UK
INTERFACE	USA
SCAVOLINI	Italy
SMEG	Italy
SANA TRENNWANDBAU	Germany

AUTOMOTIVE
AUDI	Mexico, Belgium, Spain
BMW	Cina, Belgium, Germany, Mexico, Canada, UK
BREMBO	Italy, Poland, Cina, Czech Rep., USA
BRIDGESTONE CANADA	Canada
CONTINENTAL	USA, Germany
DAIMLER	Germany, Mexico
FCA	Brasil, Poland, Italy, Serbia
FERRARI	Italy
GKN DRIVELINE	Mexico, USA
GOODYEAR	Germany, Canada
HARLEY DAVIDSON	USA
JAGUAR	Belgium
MASERATI	Italy
MICHELIN	France
MUBEA	Germany, Cina, Czech Rep., Mexico, USA, Poland
PEUGEOT-CITROEN	France
PORSCHE	Germany
RENAULT	France
SUBARU	USA, Canada
TRELLEBORG	Italy, Cina, UK, France
VALEO	France, Italy, Spain, Belgium
VOLKSWAGEN	Germany Cina, Spain, Argentina

BEVERAGE
AKIJ FOOD AND BEVERAGE	Bangladesh
BODEGAS JOSE ESTEVEZ	Spain
COCA COLA	Belgium, USA
COMPANIA CERVECERA DE COAHULA	Mexico
CONTRI SPUMANTI	Italy
GINESTET	France
MOTHER PARKERS	USA
NATURAL WATERS OF VITI	Fiji
NESTLE WATERS	UK
PEPSICO	USA, Australia, UK, Germany, Brasil
SPENDRUPS	Sweden
SUNTORY	Mexico

PAPER
BIC ECRITURE	France
CCL LABELS	USA
INTERNATIONAL PAPER	USA
HACHETTE LIVRE	France

CERAMICS
FLORIM	Italy, USA
PORCELANOSA MEXICO	Mexico
PORCELANOSA NEW YORK	USA
ROCA SANITARIO S.A.	Spain
SACMI	Italy, Spain, Mexico

CHEMICAL PHARMACEUTICALS
GLAXO SMITH KLINE	Italy, UK, USA
INNOMED	USA
INTAS PHARMACEUTICALS	India
JOHNSON & JOHNSON	USA, Brasil
ORFIT	Belgium
SYMRISE	USA
SYNTHES	USA

COSMETICS
AIR-VAL INTERNATIONAL	Spain
IBERCHEM AROMAS	Spain
L'OREAL	China
MARIA GALLAND	Germany
RUSI COSMETIC	Germany

ELECTRICAL ELECTRONICS
BHARAT ELECTRONICS	India
EATON CONTROLS	Mexico
PT INFINEON	Singapore
SIEMENS	France, India, Mexico, USA
WURTH	Germany, Slovakia

ENERGY OIL&GAS
BAKER HUGES	Netherlands
GE ENERGY	USA, Canada
IMMERGAS	Italy
KUWAIT NATIONAL PETROLEUM COMPANY	UAE
PETRO CANADA	Canada
PETROLEO BRASILEIRO	Brasil, Poland, Italy, Serbia

LARGE RETAIL
CONAD DEL TIRRENO	Italy
CONSUM COOP	Spain
OTK KART USA CORP	USA
SUPERMERCATI TOSANO CEREA	Italy
WOOLWORTHS SUPERMARKET	Australia

HYDRAULIC PNEUMATIC
BOSCH REXROTH	Mexico, Germany, USA, Italy
WALVOIL	Italy, USA
GUNTER TATA HUOTECHNIKA	Hungary
MECANIZADOS ALCOY	Spain

AGRICULTURAL MACHINERY
CNH INDUSTRIAL	Brazil, Italy, Spain, Belgium
KOMATSU	Italy
JOHN DEERE	USA
MANITOU	Italy
MASCHIO GASPARDO	Romania, Italy
RANGER INDUSTRIES	USA

MECHANICAL METALLURGY
ALSTOM TRANSPORT INDIA	India
BIESSE	Italy, USA, Malaysia
BONFIGLIOLI RIDUTTORI	Italy, India, USA, Cina
ROSSI MOTORIDUTTORI	Italy
SATURN FASTENERS	USA

LUXURY
LUCE BIANCA	Italy
MIDAS CHAIN	USA
OTTAVIANI INTERNATIONAL	Italy
PERLUNICA	Italy

MILITARY
DDDC DEFENSE DISTRIBUTION DEPOT CALCULATOR	USA
DLA-AVIATION	USA
DLA DISTRIBUTION NORFOLK	USA
U.S.A.F. - MCCONNELL AIR FORCE BASE	USA
U.S. AIR FORCE DOVER AFB	USA

OPTICAL
ALCON	USA
BUHLER LEYBOLD OPTICS	China
CSO	Italy
LUXOTTICA	Italy
MEKRA LANG GMBH & CO.KG	Germany

PACKAGING
AETNA GROUP USA	USA
POPLAST	Italy
SOFLOG	France
TETRA PAK	Italy

PLASTICS
CONTITECH CHINA RUBBER & PLASTICS TECHNOLOGY	China
MILACRON PLASTIC TECH	USA
KLINTPACK	Thailand
WESTLAND GUMMIWERKE	Germany

TOBACCO
DHAKA TOBACCO IND.	Bangladesh
PHILIP MORRIS	Italy, Poland

TRANSPORT
METROPOLITAN TRANSPORTATION AUTHORITY	USA
NEW YORK CITY TRANSIT AUTHORITY	USA
SNCF	France
TORONTO TRANSIT COMMISSION	Canada

Modula Worldwide presence

Modula is present in 5 continents with dealers and branches located in over 50 countries.

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